The Legacy of *Matsushita*: Has this Thing Called Economics Gotten Way out of Hand?

by

Michael A. Salinger*
Director, Bureau of Economics
Federal Trade Commission

Matsushita at 20
Loyola University School of Law, Institute for Consumer Antitrust Studies
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I. Introduction

When I was in graduate school, we had a tradition, similar to the ones at many graduate schools, of an annual skit party in which the students made fun of the faculty and the faculty took their shot at the students. In my years there, by far the best skit was a take-off of *The Rocky Horror Picture Show* performed by the class that entered a year after mine. It included a song, written as I recall by Doug Bernheim, to the tune of "What Ever Happened to Saturday Night?" The first two lines of the song were, "What ever happened to supply and demand? This thing called economics has gotten way out of hand." In thinking about the legacy of the *Matsushita*,[1] I found myself recalling those lyrics. Economics had been a part of antitrust litigation before *Matsushita*, but one of the legacies of *Matsushita* was an increased role for economics in antitrust litigation in general. Over time, that analysis has become increasingly sophisticated. Many lawyers I talk to confess to being mystified by economic testimony and seem to believe that "this thing called economics has gotten way out of hand." My comments today contain my thoughts on whether the legacy of *Matsushita* is a role for economics that has gotten way out of hand.

The specific allegation in *Matsushita* was collusive predation. The legacy of the increased role the decision gives to economics extends far beyond that specific issue to virtually every area of antitrust law. I would argue that the biggest impact was on predatory pricing doctrine, and so my comments will focus on that area of antitrust law. I will begin by discussing the decision itself, which I view as both establishing important principles and leaving some unanswered questions. I will then turn to *Brooke Group*,[2] which I believe answered some of those questions. Finally, I will use two recent cases involving the airline industry - the Department of Justice's predatory pricing case against American Airlines[3] and Spirit Airlines' predatory pricing case against Northwest[4] – to comment on remaining unresolved issues. Among the topics I will discuss will be the proper role of intent in predation cases, whether or not it is necessary to demonstrate actual recoupment as opposed to expected recoupment, and the appropriate measure of costs for determining below-cost pricing.

II. *The Legacy of Matsushita*

One of the challenges in assessing the legacy of *Matsushita* and, in particular, the role it laid out for economics is that it established two distinct roles. The implications of the decision for how economics should be used in particular cases turns critically on the relative importance of these two roles.

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[1] Matsushita Elec. Indus. Co. v. Zenith Radio Corp., 475 U.S. 574 ,589 (1986), [hereinafter *Matsushita*].
[2] Brooke Group Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209 (1993), [hereinafter *Brooke Group*].
[3] United States v. AMR Corp., 335 F. 3d. 1109 (10th Cir. 2003) Districe court decision = 140 F. Supp 2d. 1141 (D Kan. 2001), [hereinafter *American Airlines*].
[4] Spirit Airlines, Inc. v. Northwest Airlines, Inc., 431 F. 3d 917 (6th Cir. 2005), [hereinafter *Spirit*].

One of the roles was that the theory of a case has to be subjected to an economic sense screen in which economic theory plays or at least could play a prominent role. Recall the basic facts of the case. Two U.S. electronics companies brought suit against, in effect, seven Japanese electronics manufacturers for collusively engaging in predatory pricing. Despite the compilation of a massive record, there was no direct evidence of the sort of conspiracy that could have led to damages to be owed to plaintiffs. The Court found for the appellants and granted the motion for summary judgment in their favor. In doing so, it ruled, "If the factual context renders respondents' claims implausible – *if the claim is one that simply makes no economic sense* – respondents must come forward with more persuasive evidence to support their claim than would otherwise be necessary…"[5] (emphasis added). There were two aspects of the case that, according to the Court, were particularly implausible. The period of predation was supposed to have begun in 1953, more than twenty years before the case was filed. Even if the Japanese companies were eventually to drive U.S. firms from the market, the present value of the entire strategy had to have been negative. Moreover, however implausible the predation strategy would have been for a single dominant firm, the allegation was that the companies had colluded in the predatory scheme. This would have required the cartel to be stable for decades. The members would have had to agree on both the allocation of losses during the predation period and the allocation of gains in the post-predation period.

With this argument, the Court used economics as a proverbial pin to pop a balloon. Its decision in the case came in 1986, more than a decade after it had been filed. The record had been voluminous. The cost of the litigation must have been staggering. And yet, at the end of the day, in spite of the amount of paper filed and the number of hours billed, the Court dismissed the case for failing to conform to the rigors of economic theory. That is the sort of result that economists and economic theorists in particular fantasize about.

The second role that the Court created for economics stems from its assertions "that predatory pricing schemes are rarely tried, and even more rarely successful"[6] and "mistaken inferences in cases like this one are especially costly, because they chill the very conduct the antitrust laws are designed to protect."[7] With these statements, the Court acknowledged that courts and juries would sometimes make mistakes in deciding whether predation had occurred and that the possibility of such mistakes affects legal standards. With a perfect test for predation, we would not need to worry whether predation is rare or about the cost of confusing competition with predation. When predation occurs, it would be punished. Absent such a test, however, the legal standard should rationally take account both of the relative frequency of anticompetitive price reductions (compared with those that are just good, clean competition) as well as the cost of falsely labeling a competitive price cut as predatory.[8]

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[5] *Matsushita* . supra note 1 at 587.
[6] *Id.* at 589.
[7] *Id.*at 594.
[8] Keith N. Hylton and Michael Salinger, Tying Law *and Policy: A Decision-Theoretic Approach*, 69 ANTITRUST L. J. 469 (2001) as well as James C. Cooper, Luke Froeb, Daniel P. O'Brien, and Michael Vita, *Vertical Antitrust Policy as a Problem of Inference*, 23 INTERNATIONAL J. OF INDUS. ORG. , 639 (2005).

As important as *Matsushita* was, it left some important unanswered questions. It set out a two-pronged test for demonstrating predation. Plaintiffs must demonstrate pricing below the "relevant measure of cost," and it must demonstrate that the alleged predator had a reasonable prospect of recoupment.[9]

The appropriate measure of cost remains a large open question. I will return to that later when I discuss the airlines cases.

The Court also gave little guidance as to the standards for demonstrating the plausibility of recoupment. The claims in *Matsushita* were so preposterous that there was no need to discuss details at that time. Any of the remotely plausible approaches would give the answer that recoupment after a twenty-year predation period was implausible. From the decision itself, it is hard to know whether the "economic sense" screen was intended as a very tight screen in which a professional economist would be needed to make the call, or whether it would be a kind of "sanity check" that would not require much in the way of formal economic tools.

Recall that in *Matsushita*, there was no evidence of the alleged conspiracy. A related big question is what would happen if there were evidence of the sort of anticompetitive behavior alleged. Presumably, if there was evidence of an actual conspiracy, it would have been deemed per se illegal; and economics would not have played a major role in determining liability. What if the case involved predation by a single company and there was evidence that it actually attempted predatory pricing with the expectation of recoupment? Would plaintiff's case be subject to an economic sense screen and, if so, what would that screen entail?

III. Brooke Group

In *Brooke Group*, the Supreme Court extended the economic sense screen of *Matsushita* beyond the realm of cases involving no direct evidence of the alleged behavior. In contrast to *Matsushita*, there was evidence in *Brooke Group* that Brown & Williamson attempted predatory pricing. If the Supreme Court was correct when it said in *Matsushita* "that predatory pricing schemes are rarely tried, and even more rarely successful,"[10] then *Brooke Group* involves a rare case in which a company attempted such a scheme. It lowered prices on its generic cigarettes below average variable cost for a period of between 12 and 18 months, and its intent in doing so was to persuade Liggett either to stop selling generic cigarettes or at least to get them to charge higher prices for them. As the trial court ruled, the documents written by top Brown & Williamson executives "indicating B & W's anticompetitive intent … are more voluminous and detailed than any other reported case. This evidence not only indicates B & W wanted to injure Liggett, it also details an extensive plan to slow the growth of the generic cigarette segment."[11]

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[9] *Matsushita* . supra note 1 at 589.
[10] See note 6, *infra.*
[11] Liggett Group, Inc. v. Brown & Williamson Tobacco Corp., 748 F. Supp. 344 at 354, 356 (M.D.N.C. 1990).

The question raised by *Brooke Group* is, if evidence of actual expectations of recoupment are not sufficient to demonstrate recoupment, then what in addition to company documents would be necessary? One possibility is that plaintiff must demonstrate actual recoupment. Another possibility is that plaintiff would have to show that the expectations make economic sense.

A fundamental difficulty with this latter position is that what it means for expectations to "make economic sense" is not as clear as one might hope. The economic approach to understanding expectations would be to assume that each firm expects other firms to behave in their own economic interest. But the behavior of other firms in turn depends on their own expectations. The problem is the province of game theory. Some economists would argue that the solution is to look for the suitable Nash equilibrium. Despite the extensive effort economists have devoted to this general problem – an effort that no doubt rivals the effort lawyers put into presenting the *Matsushita* case – it simply cannot narrow the possibilities very much. Finding "the" Nash equilibrium in a model of a particular business practice requires making essentially arbitrary modeling choices that, when modified, could lead to dramatically different results. As I know many industrial economists will disagree with this point, I will point out that Bertrand himself proposed the now widely-used model that bears his name to demonstrate the arbitrariness of the Cournot model. To give just one other highly regarded authority, Frank Fisher made essentially the same point in a widely read exchange with Carl Shapiro in the *Rand Journal*.[12]

In *Brooke Group*, the appeals court had ruled that a successful predatory pricing claim could not rest on the need for oligopolistic coordination on prices in the recoupment period. It went so far as to say as such a theory "defies economic logic."[13] The Supreme Court correctly disagreed with that assertion, instead ruling that such theories are logical but unlikely. It ruled, however, that "when the realities of the market and the record facts indicate it has occurred and was likely to have succeeded, theory will not stand in the way of liability."[14]

To the extent that the Court focused on the need for price coordination among tobacco companies, it is not clear why it would have found such coordination so implausible ex ante. The industry had a long history of price coordination. In merger analysis, evidence of past coordination is arguably the factor deemed most important for predicting whether future coordination is likely. The Court was arguably on firmer ground when it observed that the success of Brown & Williamson's predation required that it be able to raise the price of generic cigarettes above competitive levels. The successful coordination in the past had rested on the presence of entry barriers, but those barriers may have restricted entry into the branded segment. Whether there were any barriers to generic entry is less clear.

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[12] Franklin M. Fisher, *Games Economists Play: A Non-Cooperative View*, 20 RAND J. OF ECON. 113 (1989).

[13] [13] Liggett Group, Inc. v. Brown & Williamson Tobacco Corp., 964 F. 2d 335 at 341 (4th Cir. 1992)

[14] *Brooke Group*, supra note 2 at 229.

Still, *Brooke Group* would seem to open the possibility for economic testimony that will get out of hand. If company documents are not sufficient to demonstrate expected recoupment and economic testimony is needed to judge the reasonableness of those expectations, then the legal standard will push economists to make largely speculative judgments.

IV. Recent Airlines Cases

Let me now turn to an area where, I believe, solid economic analysis is possible, but neglect of the subject as a serious object of study in industrial economics has prevented the profession from solving a problem where economics can be useful.

A. American Airlines

The American Airlines case concerned the response of American Airlines to entry by low-cost carriers on routes to and from its Dallas-Fort Worth hub between 1995 and 1997. The typical pattern was that American cut and expanded the availability of its discounted fairs and expanded its capacity by adding flights and increasing the size of the planes it used. When the entrant subsequently exited, it raised its fares back to previous levels and removed the added capacity from the routes.

The district court ruled for American Airlines on the grounds that it had not demonstrated pricing below the relevant measure of cost, and it did so on the grounds that none of the cost measures put forward was the right one.[15] The Court of Appeals for the Tenth Circuit upheld that decision.[16] The decisions of both courts reflect fundamental confusion about the nature of costs.

Conceptually, what one wants to ascertain is whether a company charged prices below the incremental costs per unit of providing the output sold at those prices. Doing so is rarely simple, and it is probably particularly complicated in the airline industry. Areeda & Turner's classic 1975 article on the subject argued for using average variable cost as a proxy for short run marginal cost.[17] From the start, the article was controversial, eliciting criticism from, among others, Mike Scherer, and alternative recommendations from Oliver Williamson and Bill Baumol.[18] These criticisms notwithstanding, the Areeda-Turner standard has been highly influential. The Supreme Court has, however, notably failed to endorse it, and, as the American Airlines case illustrates, with good reason.

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[15] U.S. v. AMR et. al., 140 F. Supp. 2d. 1141 (2001).
[16] United States v. AMR Corporation, 335 F.3d 1109 (10th Cir. 2003) [hereinafter, *American Airlines*].
[17] Philip Areeda and Donald F. Turner, *Predatory Pricing and related Practices Under Section 2 of the Sherman Act*, 88 HARV. L. REV. 697 (1975).
[18] F. M. Scherer , *Predatory Pricing and the Sherman Act: A Comment*, 89 HARV. L. REV. 868 (1976), Oliver E. Williamson, *Predatory Pricing: A Strategic and Welfare Analysis*, 87 YALE L.J. 284 (1977), and William J. Baumol, *Quasi-Permanence of Price Reductions: A Policy for Prevention of Predatory Pricing*, 89 YALE L. J. 1 (1979).

One problem is that, as the Areeda-Turner rule is implemented, average variable cost means average variable *accounting* costs, which is different from average variable economic costs. To take a specific example, the government proposed various cost measures that included airplane expense. The district court in the case ruled, "Aircraft ownership costs are properly considered fixed costs in the industry, and are not an avoidable cost of changing capacity in a route."[19] This statement is simply wrong as a matter of economics. If American increased the number of available seat miles as part of its response, then the airplanes were an input that varied with the level of output. Exactly how those costs should be measured may not be a simple matter. The answer would be different in a period like the late 1980's, when airlines had invested in far too much capacity and were "parking" their planes in places like the Mojave Dessert, than it was in the late 1990's.

Another general problem is that a company uses many inputs for multiple "products." If the activity driving the cost is hard to identify, it might be labeled as being "joint" (and, therefore, "fixed") for accounting purposes. In an economic sense, though, a cost is joint between two activities only if the firm must incur the entire cost if it engages in just one of the activities; and the marginal cost associated with the second activity is 0. For example, the price of a football ticket would be a joint cost if one were to think of viewing the first half of the game and the second half as joint activities. Many costs that have traditionally been treated as "joint" for accounting purposes are not joint in the economic sense. The field of "activity-based costing," which has been a major body of literature in accounting for many years, starts from the premise that many costs traditionally treated as fixed for accounting purposes are in fact marginal. The district court ruled that American's cost allocation scheme allocated these types of costs "arbitrarily" across routes. I doubt that. The choice of an allocation basis would almost certainly have been driven by results about how different activities drive the level of expenditure on different cost components.

Of course, none of these allocation schemes is perfect. Reliance on them does, therefore, pose a risk of over-estimating marginal cost. However, if courts impose a very strict standard for justifying how accounting fixed costs are allocated, the result will be a systematic underestimate of incremental cost. Obtaining good (if not necessarily perfect) measures of incremental cost is what economists should be able to do; and having economic experts present such testimony should not be a reason for the economics to get out of hand.

B. Spirit

The predatory pricing case by Spirit Airlines against Northwest raised many of the same issues as the American Airlines case. Northwest's cost accounting system seems to have been more transparent. The Court of Appeals for the Sixth Circuit did rule that a reasonable jury could accept the cost estimates by Spirit's experts.[20]

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[19] U.S. v. AMR et. al., 140 F. Supp. 2d. 1141 (2001) at 1175.
[20] *Spirit Airlines* supra note 4.

Indeed, there were some key points of agreement that were absent in the American Airlines case. Both experts included airplane expense as part of variable cost. Both agreed that the right cost concept was average variable cost.

It is the agreement on the last point that strikes me as being particularly interesting. On one level, I agree; but there are two important qualifications. First, all the economic variable costs, not just the ones treated as variable must be included. Second, the average has to be computed over the correct range. When firms increase output as part of a predatory pricing scheme, the relevant range is the output increase. The variable costs incurred to increase output should be averaged over the amount of the increase.

The district court decision did mention a cost measure generated by Northwest that includes "long-term fixed costs that Northwest expects to incur as it grows over time."[21] This wording by the court is inherently imprecise. The fact that the costs would grow over time with the level of output means that the costs are not fixed according to the proper economic use of that term. They might be sunk costs; and, if so, they should not enter an average variable cost calculation directly. However, the presence of sunk, non-fixed costs has implications for what average variable cost is.

There is a general principle in economics called the "envelope theorem." While it is on one level an abstract mathematical principle, it is important enough to be illustrated in every introductory microeconomics textbook that I know of. The envelope theorem says that when the level of output is equal to the level that was planned for (in making capacity decisions), short run marginal cost equals long run marginal cost. When output exceeds the level that was planned for, short run marginal cost (and, therefore, variable cost averaged over the output increase) is greater than long run marginal cost. Yet, average variable cost as it is computed for antitrust cases is below what one would estimate as long run marginal cost.

V. Conclusion

On a previous trip to Chicago many years ago, I presented a paper at the University of Chicago industrial organization seminar. Sam Peltzman was my host. When I asked him what he thought industrial economists should work on, he replied that they should work on measuring marginal cost. The answer struck me at the time as being strange. It now strikes me as being quite wise. In industrial economics, the distinguishing feature of the so-called "new empirical industrial organization" is the presumption that marginal cost is essentially impossible to measure. As a consequence, one might paraphrase Oscar Wilde's definition of a cynic to define a "new" industrial economist as someone who knows the price of everything but the marginal cost of nothing. The issue of whether the cost of the airplane is fixed or variable is an absolutely fundamental question. If the economics profession is to fully justify the faith the Court placed in it in *Matsushita* and again in *Brook Group*, it will have to be able to answer conclusively this type of basic question.

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[21] Spirit Airlines, Inc. v. Northwest Airlines, Inc. , 2003 WL 24197742 (E.D. Michigan, March 31, 2003).

I began by asking whether "this thing called economics has gotten way out of hand." When economists testify on subjects where the economics is inherently inconclusive, there is a real risk that it will get out of hand. It won't, though, if economists focus on the basic issues like the proper measurement of cost.

Thank you.